

Appln. No. 09/587,662
Amendment dated November 19th, 2003
Reply to Final Office Action of July 7, 2003

The listing of claims will replace all prior versions and listing of claims in the application:

Listing of Claims:

Claim 1. (Previously amended) A method for inhibiting or reducing the growth of a cell, comprising:

administering a dose of a telomere damage-inducing agent to the cell wherein such agent causes damaged or shortened telomeres within 24 hours or prior to the initiation of the apoptosis cascade, or causes telomere damage followed by a transient increase in telomerase activity; and

administering a dose of telomerase inhibitory agent to the cell, such that an inhibition or reduction in the growth of the cell is achieved.

Claim 2. (Previously amended) A method for improving the efficacy of a telomere damage-inducing agent, in a subject, comprising:

administering a dose of a telomere damage-inducing agent to the cell wherein such agent causes damaged or shortened telomeres within 24 hours or prior to the initiation of the apoptosis cascade, or causes telomere damage followed by a transient increase in telomerase activity; and

administering a dose of telomerase inhibitory agent to the cell, such that the telomerase inhibitory agent enhances the efficacy of the telomere damage-inducing agent, relative to the effect of the telomere damage-inducing agent in the absence of the telomerase inhibitory agent.

Claim 3. (Original) The method of any one of claims 1 or 2, wherein said growth is aberrant.

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Claim 4. (Original) The method of any one of claims 1 or 2, wherein said cell is a tumor cell.

Claim 5. (Original) The method of any one of claims 1 or 2, wherein said cell is a leukemia cell.

Claim 6. (Original) The method of claim 4, wherein said tumor cell is of the brain, breast, ovary, testes, bladder, prostate, colon, lung, liver, pancreas, or uterus.

Claim 7. (Original) The method of claim 4, wherein said tumor cell is benign.

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Claim 8. (Original) The method of claim 4, wherein said tumor cell is malignant.

Claim 9. (Original) The method of any one of claims 1 or 2, wherein said growth is selected from the group consisting of hyperplastic and hypertrophic.

Claim 10. (Original) The method of any one of claims 1 or 2, wherein said inhibition or reduction-in-the growth of the cell comprises apoptosis.

Claim 11. (Original) The method of any one of claims 1 or 2, wherein said telomere damage-inducing agent and telomerase inhibitory agent are administered serially.

Claim 12. (Original) The method of any one of claims 1 or 2, wherein said telomere damage-inducing agent and telomerase inhibitory agent are administered concurrently.

Claim 13. (Original) The method of any one of claims 1 or 2, wherein said telomere damage-inducing agent and telomerase inhibitory agent are administered in any order.

Claim 14. (Original) The method of any one of claims 1 or 2, wherein said telomere damage-inducing agent or telomerase inhibitory agent, is administered as a timed-release formulation.

Claim 15. (Original) The method of claim 14, wherein said telomere damage-inducing agent and telomerase inhibitory agent are both administered as a timed-release formulation.

Claim 16. (Original) The method of any one of claims 1 or 2, wherein said telomere damage-inducing agent or telomerase inhibitory agent, is administered locally.

Claim 17. (Original) The method of claim 16, wherein said telomere damage-inducing agent and telomerase inhibitory agent are both administered locally.

Claim 18. (Original) The method of any one of claims 1 or 2, wherein said telomere damage-inducing agent or telomerase inhibitory agent, is administered systemically.

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Claim 19. (Original) The method of claim 18, wherein said telomere damage-inducing agent and telomerase inhibitory agent are both administered systemically.

Claim 20. (Original) The method of any one of claims 1 or 2, wherein said telomere damage-inducing agent or telomerase inhibitory agent, is administered regionally.

Claim 21. (Original) The method of claim 20, wherein said telomere damage-inducing agent and telomerase inhibitory agent are both administered systemically.

Claim 22. (Original) The method of any one of claims 1 or 2, wherein said cell is in a human.

Claim 23. (Original) The method of any one of claims 1 or 2, wherein said telomere damage-inducing agent is paclitaxel, or a derivative thereof.

Claim 24. (Previously amended) The method of any one of claims 1 or 2, wherein said telomerase inhibitory agent is a nucleoside analog, or derivative thereof.

Claim 25. (Cancelled)

Claim 26. (Previously amended) The method of claim 24, wherein said nucleoside analog is AZT in a dose of no more than about 0.24 mg/kg/day.

Claim 27. (Previously amended) The method of claim 24, wherein said nucleoside analog is d4T in a concentration of at least about 20 micromolar.

Claim 28. (Original) The method of any one of claims 1 or 2, wherein said agent selected from the group consisting of telomere damage-inducing agent and telomerase inhibitory agent, is administered as a subtherapeutic dose.

Claims 29-32 (Cancelled).

Subtherapeutic to accomplish what? Less than is necessary to affect cell growth or less than necessary to improve telomere damage.

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Claim33 (Previously amended). A method of inhibiting or reducing the growth of a cell comprising:
contacting a cell with at least one agent and determining if telomere damage has occurred;
contacting a cell with the same or at least one other agent and determining if a reduction in telomerase activity has occurred, whereby an agent or agents, alone or in combination, that are determined to induce telomere damage and inhibit telomerase activity, are indicated as an agent or agents that inhibits or reduces the growth of a cell; and
administering to a cell a therapeutically effective amount of the identified agent or agents.

Claim34 (Previously amended). A method of treating aberrant cell growth in a mammal comprising:
contacting a cell with at least one agent and determining if telomere damage has occurred;
contacting a cell with the same or at least one other agent and determining if a reduction in telomerase activity has occurred, whereby an agent or agents, alone or in combination, that are determined to induce telomere damage and inhibit telomerase activity, are indicated as an agent or agents that inhibits or reduces the growth of a cell; and
administering to a mammal a therapeutically effective amount of the identified agent or agents.

Claim 35 (Original). The method of claim 34 wherein said mammal is a human.

Claims 36-39 (Cancelled).

Claim 40. (Previously amended) A method of treating cancer in a patient comprising, administering a therapeutically-effective amount of a telomere damage-inducing agent to said patient wherein such agent causes damaged or shortened telomeres within 24 hours or prior to the initiation of the apoptosis cascade, or causes telomere damage followed by a transient increase in telomerase activity; and
administering a therapeutically-effective amount of a telomerase inhibitory agent to said patient, such that treatment of the cancer is achieved.

Claim 41 (Previously amended). The method of claim 40, wherein the method further comprises identifying a patient having cancer.

cognitive unnecessary claim.

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Claim 42. (Previously amended) A method of treating cancer in a patient comprising, obtaining an agent selected from the group consisting of a telomere damage-inducing agent wherein such agent causes damaged or shortened telomeres within 24 hours or prior to the initiation of the apoptosis cascade, or causes telomere damage followed by a transient increase in telomerase activity, and a telomerase inhibitory agent; administering a therapeutically-effective amount of said telomere damage-inducing agent to said patient; and administering a therapeutically-effective amount of a telomerase inhibitory agent to said patient, such that treatment of the cancer is achieved.

Claim 43 (Previously amended). The method of claim 42, wherein the method further comprises identifying a patient having cancer.

Claim 44 (Original). The method of any one of claims 40 or 42, wherein said telomere damage-inducing agent is paclitaxel, or a derivative thereof.

Claim 45. (Previously amended) The method of any one of claims 40 or 42, wherein said telomerase inhibitory agent is a nucleoside analog, or derivative thereof.

Claim 46. (Previously amended) The method of claim 45, wherein said nucleoside analog is AZT.

Claim 47. (Previously amended) The method of claim 45, wherein said nucleoside analog is d4T.

Claims 48-89 (Cancelled).

Claim 90 (Previously added). The method of claim 24, wherein said nucleoside analog is d4T in a dose that produces at least about 20 micromolar plasma concentration in a subject.

Claim 91 (Currently amended). The method of ~~any one of claims~~ claim 26, wherein said telomere damage-inducing agent is paclitaxel, or a derivative thereof, and the ratio of the AZT concentration to the telomere damage-inducing agent concentration is about 40:60 of their respective therapeutic concentrations.

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Claim 92 (Currently amended). The method of ~~any one of claims~~ claim 26, wherein said telomere damage-inducing agent is paclitaxel, or a derivative thereof, and the ratio of the AZT concentration to the telomere damage-inducing agent concentration is about 40:60 of their respective therapeutic doses.